

RECEIVED

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COMMON NAME: pondberry or southern spicebush

Wetland Mgmt. Dist

SCIENTIFIC NAME: Lindera melissifolia

FAMILY: Lauraceae

DESCRIPTION: This deciduous shrub grows to approximately 2 meters (6 feet) tall, and spreads vegetatively by stolons. Pale yellow flowers appear in the spring before the leaves. The bright red, 12-millimeter (0.5 inch) long, oval-shaped fruits mature in the fall. Pondberry is distinguished from the two other North American members of the genus (Lindera benzoin and Lindera subcoriacea) by its drooping, thin, ovate to elliptic shaped leaves that have a strong, sassafras-like odor when crushed.

RANGE: Pondberry is known to occur in six states in the Southeast, including Arkansas, Georgia, Missouri, Mississippi, North Carolina, and South Carolina. This species' historical range also included Alabama, Louisiana, and Florida. In Mississippi, populations are known to occur in Yazoo Delta Region in the counties of Bolivar, Sharkey, Sunflower, and Tallahatchie.

HABITAT: Pondberry is associated with wetland habitats such as bottomland hardwoods in the interior areas, and the margins of sinks, ponds and other depressions in the more coastal sites. The plants generally grow in shaded areas.

LIFE HISTORY AND ECOLOGY: This species is dioecious (male and female flowers are produced on separate plants) and populations are typically dominated by male plants. Reproduction seems to be primarily vegetative by means of stolons. The plants grow in clones of numerous stems which flower in the third or fourth year of growth. The stems continue to grow in subsequent years but tend to die by the sixth or seventh year. Young stems replace the dead stems from the base. The plants bloom around March and fruits are produced in October, with production varying substantially from year to year. Seedling establishment is reported to be low.

BASIS FOR CLASSIFICATION: Pondberry is listed as a threatened species by the U.S. Fish and Wildlife Service. The most significant threats are drainage ditching and subsequent conversion of its habitat to other uses. Even ditching without the later conversion of land use can alter the water regime in a manner that reduces the plant's vigor or eliminates it from the site. Cattle grazing and timber harvesting have also impacted the plants at some sites. The preponderance of male plants and limited seedling establishment are additional factors that threatened this species' long-term survival.

LAURACEAE

Lindera melissaefolium (Walt.) Blume. Swamp spice bush;  
Jove's-fruit

Benzoin melissaefolium (Walt.) Nees

Technical Description

Low, aromatic, deciduous, thicket-forming shrub, rarely to 1 meter tall.

Stems.--Numerous; shoots erect or ascending, the young twigs hairy, the buds densely hairy.

Leaves.--Alternate, drooping on short, slender, hairy petioles, the blades oblong, elliptic or narrowly ovate, thinnish, 5-16 cm long, 2-6 cm wide, acuminate, entire, the bases rounded, dark green above, paler and pubescent beneath.

Inflorescence: Plants unisexual. Flowers in short stalked umbels in the axils of the leaf scars, opening before the leaves, usually few to cluster on pedicels 9-12 mm long.

Flowers.--Sepals 6, oblong, about 2 mm long, bright yellow. Staminate flowers with 9 fertile erect or ascending stamens, the anthers opening by valves (flaps). Female flowers with numerous orange-yellow fleshy staminodes, the ovary superior, ovoid, with an elongate style.

Fruit.--Fruiting pedicels stoutish, definitely thickened apically. Drupes ellipsoidal or obovoid, 10-12 cm long, bright red when ripe.

Distribution and Flowering Season

Sandy silty sink hole depressions and swamps, in the Coastal Plain from North Carolina south to northern Florida, thence west to Louisiana and north in the Mississippi Embayment to southeastern Missouri. One of our rarest shrubs.

Special Identifying Features

The observations of Dr. Julian Steyermark (1949) are the best. He noted the following differences with the quite common Spicebush, L. benzoin (L.) Blume.

1. It is a shorter shrub. L. benzoin grows to mostly 1.6-4.5 meters.
2. Crushed twigs and leaves have a sassafras odor in contrast to the strong benzine odor of L. benzoin.
3. The leaves of L. melissaefolium droop; those of L. benzoin are spreading or ascending. Those of the former are densely hairy beneath; most L. benzoin (save for L. benzoin var. pubescens) tend to be smooth or smoothish. Bases of leaves of L. melissaefolium tend to be rounded; those of L. benzoin taper.
4. Fruiting pedicels are stouter, longer, more enlarged toward the tip: also they tend to persist on the shrubs until flowering time, while in L. benzoin taper.

Habitats and Management Implication

Both species frequent soils that never dry out, but L. melissaefolium is strictly confined to swamp hardwood sites while L. benzoin is very often understory to mixed-mesophytic forest.

The common species of overstory for L. melissaefolia are various swamp oaks (Q. palustris, Q. phellos, Q. laurifolia, etc.) hickories, ash, Acer saccharinum, Arubrum. Steyermark (l.c.) found the shrubs in sandy potholes dominated by an overstory of Pin Oak and Pumpkin Ash, with what remained of the surrounding higher forest being made up of Sugar Maple, Flowering Dogwood, Aralia, Asimina.

It is obvious that this shrub is a plant of high hydroperiod soils; it is frequently found in standing water. Selective logging of the swamp hardwood overstory probably would effect it little. Clear cutting might raise the flood level to a dangerous degree.

Drainage of the swamps it frequents would eliminate the species. No comments are available as to whether livestock browse the twigs. In fact little recent information is available. In 1949 Steyermark commented that material he borrowed from the four largest U.S. herbaria contained a total of only 19 herbarium sheets comprising but 10 different collections with most of these made more than one hundred years earlier.

#### References

Small, J. K. 1933. Manual of the Southeastern Flora. 924.

Steyermark, Julian A. 1949. Lindera Melissaefolia.  
Rhodora 51, no. 608: 153-162.

Tucker, G.E. 1974. Lindera mellissaefolium in Arkansas. Rhodora 76:525.

# DISTINGUISHING CHARACTERS

CHARACTER	<i>L. melissifolia</i> (pond berry)	<i>L. benzoin</i> (spicebush)
> habit & height	clonal, tends to be shorter (~1m)	usually 1.6-4.5m tall
> odor of crushed lvs/twigs	"sassafras like"	"spicy"
> leaves:		
(orientation)	drooping	horizontal to ascending
(underside)	densely hairy	smooth (except <i>L. benzoin</i> var. <i>pubescens</i> )
(shape)	ovate-elliptic	obovate
(leaf base)	rounded	tapered
(leaf apex)	acute	acuminate
> fruit:		
fruit length	12mm	10mm
fruit stalk	enlarged at tip & persistent	not enlarged at tip & deciduous
> habitat	strictly bottomland sites (in MS)	often mixed-mesophytic forest